

UPDATED LIST OF THE BUTTERFLIES AND SKIPPERS OF FLORIDA

(LEPIDOPTERA: PAPILIONOIDEA AND HESPERIOIDEA)

JOHN V. CALHOUN¹

977 Wicks Dr., Palm Harbor, Florida 34684, USA

ABSTRACT.—An updated list of the butterflies and skippers of Florida is presented which treats 193 species (211 species and subspecies). English common names are provided. Type localities are given for species and subspecies described from Florida material. Also included are synonymous and infrasubspecific taxa that possess Florida type localities. The status (resident, naturalized resident, immigrant, accidental introduction, stray, or status unknown) and general geographic range (west, north, central, and south) of each species and subspecies in Florida are indicated. Endemic, as well as rare and imperiled taxa are recognized. Erroneous records are noted in an Appendix.

KEY WORDS: Caribbean, classification, Florida Keys, Hesperiidae, history, Lycaenidae, Nearctic, nomenclature, North America, Nymphalidae, Papilionidae, Pieridae, Riodinidae, taxonomy, USA, West Indies.

Since the pioneer botanist, William Bartram (1791), reported finding "multitudinous" butterflies visiting flowers near the banks of the Indian River along the east coast of Florida in December 1774, numerous entomologists and naturalists have combed Florida's landscape with hopes of encountering interesting and unknown species of Lepidoptera. Early explorers included Bartram's grandnephew, the venerable Thomas Say ("The Father of American Entomology"), who visited Florida in 1818 (Ord, 1859), and the renowned English entomologist, Edward Doubleday, who noted "a good many Lepidoptera" during his tour of northeastern Florida in 1837-38 (Doubleday, 1838). As modes of transportation improved and the population of Florida grew, our understanding of the Lepidoptera fauna of the state substantially increased.

During the late 19th century, Lepidoptera specimens and observations were contributed by an increasing number of professional entomologists and amateur natural history collectors. The most notable resident collector of the period was William Wittfeld of "Indian River, Florida" (Georgiana, Brevard Co.). From 1880 to 1892, Wittfeld supplied thousands of Lepidoptera specimens to William H. Edwards who retained the majority of the butterflies, forwarding most of the moths to Henry Edwards. Not surprisingly, "Indian River, Florida" serves as a vague type locality for a myriad of taxa described by these and other prominent lepidopterists (Calhoun, 1995). By the close of the 19th century, tens of thousands of Lepidoptera specimens from Florida had found their way into collections around the world. Over 50 new taxa of butterflies and skippers were described from these specimens.

The study of Florida's Lepidoptera continued with unabated vigor into the 20th century. New discoveries and regional lists were published with increasing frequency. Three entomological

expeditions, sponsored by the American Museum of Natural History, were conducted in Florida in 1911, 1912, and 1914. The results of these expeditions contributed to the first published list of all known species of Florida Lepidoptera. Originally compiled by John A. Grossbeck and expanded by Frank E. Watson after Grossbeck's untimely death in 1914, this list included 160 species of butterflies and skippers (Grossbeck, 1917).

During the decades that followed, many more species of Lepidoptera were documented in Florida by a burgeoning number of researchers and collectors. Nearly 50 years elapsed before Charles P. Kimball produced the second publication to treat all known species of Florida Lepidoptera (Kimball, 1965). This exhaustive work included 171 species of butterflies and skippers and has remained the standard of reference for 30 years. More recent lists of Florida butterflies and skippers have appeared in a popular guide by Gerberg and Arnett (1989) which included 189 species, and an Internet page (Opler *et al.*, 1995) that initially included 188 species. However, these lists were not intended to be definitive.

The present list updates and corrects these previous lists and reflects our most current understanding of Florida's butterfly and skipper fauna. It includes 193 species and is the first to treat all appropriate subspecies. The list is primarily based upon specimens in private and institutional collections. Many records documented since Kimball (1965) were compiled by H. D. Baggett, and his unpublished distribution maps greatly contributed to this study. Over 600 literature sources containing Florida records have also been consulted. The systematic arrangement follows Miller and Brown (1981) and the subsequent supplement by Ferris (1989) (some dates of older names are corrected according to Heppner, 1982). The nomenclature primarily follows Ferris (1989), but additional revisionary studies have been recognized, including Burns (1994), Higgins (1981), Johnson and Bálint (1995), Shuey (1993), and Sourakov (1993). With the exception of generic usage, the Papilionidae follows Tyler *et al.*

¹ Research Associate, Florida State Collection of Arthropods, DPI, FDACS, Gainesville, Florida, 32614, USA.

(1994): a more conservative approach, which treats most genera as subgenera of *Papilio*, is preferred by most workers. The usage of the genus *Callophrys* (Theclinae) follows the recommendations of Robert K. Robbins (pers. comm.), but Robbins and Duarte (in press) note that this arrangement is tentative and requires more detailed study. The genus *Celastrina* (Polyommatainae) follows the recommendations of David M. Wright (pers. comm.). The subfamily classification of the Nymphalidae agrees with Harvey (1991). In an effort to help standardize the frustratingly inconsistent use of common names, I have employed those adopted by the North American Butterfly Association (NABA, 1995) where possible. Common names of endemic Florida Keys Hesperiidae were taken from Deyrup and Franz (1994). One swallowtail name follows usage in Heppner (1997, in prep.) and Heppner *et al.* (in prep. a,b).

Type localities ("TL") are given for species and subspecies that were described from Florida specimens (others can be found in Miller and Brown, 1981). Synonymous and infrasubspecific taxa are listed that also were purportedly described from Florida material. County names are provided in square brackets ([]) for type localities that did not originally include this information. Ambiguous type localities (e.g., "Florida") are quoted exactly as they appeared in the original description. All appropriate original descriptions have been consulted: complete references for all names can be found in Heppner *et al.* (in prep. b) and in part in Kimball (1965).

To enhance the value of this list, I have provided a brief indication of the perceived status of each of the 211 species and subspecies in Florida (see Appendix for erroneous records). Although most of these designations are based on field studies, historical published data assisted in determining the status of



Fig. 1. Map of Florida showing geographic regions used for range designations.

some rarely encountered species. In some cases, the true status is not clearly understood. For the purposes of this paper, the categories below are used.

CATEGORIES

Residents (R) (n = 165) are regarded as long-term members of Florida's fauna and reproduce in the state every year.

Naturalized Residents (NR) (n = 13) appear to have become established in Florida only recently (i.e., during the last century), probably as a result of natural dispersal, and now reproduce in the state every year.

Immigrants (I) (n = 13) normally breed outside Florida, but irregularly disperse into the state and establish temporary populations (and may eventually become naturalized residents).

Accidental Introductions (AI) (n = 5) are species that do not naturally occur in the immediate vicinity of Florida (where they may establish temporary populations) and likely have reached the state as an incidental result of human activities.

Strays (S) (n = 11) are believed to enter Florida by natural dispersal, but are very rarely encountered and not known to reproduce.

Unknown Status (U) (n = 5) are species and subspecies that may represent residents, immigrants, or strays, but have not been recorded in Florida for many decades.

Rare and imperiled taxa as recognized by Deyrup and Franz (1994) are indicated as *Endangered (e)* (n = 2), *Threatened (t)* (n = 5), *Rare (r)* (n = 30), and *Species of Special Concern (ssc)* (n = 13).

The primary range of each species and subspecies in Florida is also provided. Ranges refer to a simplified map of Florida adapted from Bell and Taylor (1982) which divides the state into four regions (Fig. 1): *West* (panhandle) (W), *North* (N), *Central* (C), and *South* (including the Keys) (S). These divisions are similar to those used by Kimball (1965) and Heppner *et al.* (in prep.). Some species occur *Statewide (ST)*. The ranges are highly generalized and it should not be inferred that a taxon is distributed throughout a designated region. Most strays and accidental introductions have been recorded from only a single location within the given region. Several species appear to possess two overlapping subspecies in Florida, particularly evident in the panhandle and extreme southern peninsula. Taxa considered endemic to Florida are identified (n = 17).

Species and subspecies of questionable occurrence in Florida are included, denoted by an asterisk (*). Their inclusion is based upon records (especially specimens) with evidence of validity, but most are old (many dating from the turn of the century or before) and confirmation is required to verify the presence of these taxa in Florida. In defense of peculiar records, Ferris (1989) reminds us that we "must recognize that many environmental changes have occurred in North America during the past century. Distribution patterns have shifted accordingly . . ." Moreover, the large volume of Latin American and West Indian cargo annually received into Florida greatly increases the potential for accidental introduction.

In addition to the tentative inclusions, at least 91 more taxa have been reported from Florida. Most involve misidentifications, or erroneous specimens and published records. Many specimens which served as the basis for unusual records listed by Kimball (1965) were reexamined and found to be misidentified or actually collected outside Florida. An "erroneous list", along with some notations, is given in abbreviated form in the Appendix. Several records of unusual taxa may ultimately prove valid, but further

investigation is necessary to support their retention on the list.

Further taxa will likely be added to this list as a result of field studies and as additional collections are cataloged, reaching an estimated total of approximately 210 species (including all categories). It is hoped that this list will arouse further interest in the butterfly and skipper fauna of Florida and serve as a renewed foundation for research on the subject. Please forward any corrections and potential additions to the author.

Superfamily HESPERIOIDEA Latreille

Family HESPERIIDAE Latreille

Subfamily PYRGINAE Burmeister

1. *Phocides pigmalion okeechobee* (Worthington, 1881)
Mangrove Skipper. *R*, *ssc*.
TL: Marco Island [Collier Co.], Florida.
Range: C, S. Endemic
- *2. *Proteides mercurius sanantonio* (Lucas, 1857)
Mercurial Skipper. *S*.
Range: N.
3. *Epargyreus zestos zestos* (Geyer, 1832)
Zestos Skipper. *R*, *ssc*.
=Eudamus oberon Worthington, 1881.
TL: Marco Island [Collier Co.], Florida.
Range: S.
4. *Epargyreus clarus clarus* (Cramer, 1775)
Silver-spotted Skipper. *R*.
Range: ST.
5. *Polygonus leo savigny* Latrielle, [1824]
Hammock Skipper. *R*.
Range: S.
- *6. *Polygonus manueli* Bell and Comstock, 1948
Manuel's Skipper. *AI?*.
Paratype purportedly from Royal Palm Hammock [Dade Co.], Florida.
Range: S.
7. *Urbanus proteus proteus* (Linnaeus, 1758)
Long-tailed Skipper. *R*.
Range: ST.
8. *Urbanus dorantes dorantes* (Stoll, 1790)
Dorantes Longtail. *NR*.
Range: C, S.
9. *Autochton cellus* (Boisduval & Leconte, [1837])
Golden-banded Skipper. *R*, *r*.
Range: W, N.
10. *Achalarus lyciades* (Geyer, [1832])
Hoary Edge. *R*, *r*.
Range: W, N.
11. *Thorybes bathyllus* (J. E. Smith, 1797)
Southern Cloudywing. *R*.
Range: W, N, C.
12. *Thorybes pylades* (Scudder, 1870)
Northern Cloudywing. *R*.
Range: ST.
13. *Thorybes confusis* Bell, 1922
Confused Cloudywing. *R*.
TL: Tampa [Hillsborough Co.], Florida.
Range: W, N, C.

14. *Staphylus hayhurstii* (W. H. Edwards, 1870)
Hayhurst's Scallopwing. *R*.
Range: ST.
- *15. *Gorgythion begga pyralina* (Möschler, 1876)
Variegated Skipper. *AI*.
Range: S (Keys).
16. *Ephyriades brunneus floridensis* Bell & Comstock, 1948
Florida Duskywing. *R*, *ssc*.
TL: Key Largo [Monroe Co.], Florida.
Range: S. Endemic.
- *17. *Erynnis icelus* (Scudder & Burgess, 1870)
Dreamy Duskywing. *U*.
Range: W?
- 18a. *Erynnis brizo brizo* (Boisduval & Leconte, [1834])
Sleepy Duskywing. *R*.
Range: W.
- b. *E. brizo somnus* (Lintner, 1881)
R.
TL: "Indian River Florida"; restricted to Georgiana, Brevard Co., Florida by Calhoun (1993).
Range: N, C. Endemic.
19. *Erynnis juvenalis juvenalis* (Fabricius, 1793)
Juvenal's Duskywing. *R*.
=Nisoniades plautus Scudder & Burgess, 1870.
TL: "Florida".
Range: ST.
20. *Erynnis horatius* (Scudder & Burgess, 1870)
Horace's Duskywing. *R*.
=Nisoniades petronius Lintner, 1881.
TL: "Indian River, Florida".
Range: ST.
- *21. *Erynnis martialis* (Scudder, 1869)
Mottled Duskywing. *U*.
Range: W, N, C.
22. *Erynnis zarucco* (Lucas, 1857)
Zarucco Duskywing. *R*, *r* ("rare" status only for lower Florida Keys population which may represent an unrecognized West Indian subspecies).
=Nisoniades terentius Scudder & Burgess, 1870.
TL: "Florida".
=Nisoniades ovidius Scudder & Burgess, 1870.
TL: "Florida".
=Nisoniades naevius Lintner, 1881.
TL: "Indian River, Florida".
Range: ST.
23. *Erynnis funeralis* (Scudder & Burgess, 1870)
Funerary Duskywing. *I?*
May be conspecific with *E. zarucco* and often treated as a subspecies.
Range: W.
24. *Erynnis baptisiae* (Forbes, 1936)
Wild Indigo Duskywing. *R*.
Range: W, N.
25. *Pyrgus communis* (Grote, 1872)
Common Checkered-Skipper. *R*.
Range: W, N, C.
26. *Pyrgus oileus oileus* (Linnaeus, 1767)
Tropical Checkered-Skipper. *R*.
Range: ST.
27. *Pholisora catullus* (Fabricius, 1793)
Common Sootywing. *R*, *r*.
Range: W, N, C.

Subfamily HESPERIINAE Latreille

28. *Nastraea lherminier* (Latreille, [1824])
Swarthy Skipper. *R.*
= *Hesperia fusca* Grote & Robinson, 1867.
TL: "Atlantic District (Georgia!, Ridings; Florida!, Linden [?Seminole Co.])".
Range: ST.

29. *Nastraea neamathea* (Skinner & Williams, 1923)
Neamathea Skipper. *R.*
TL: "central Florida".
Range: ST.

30. *Cymaenes tripunctus tripunctus* (Herrich-Schäffer, 1865)
Three-spotted Skipper. *NR?*
Range: S.

31. *Lerema accius accius* (J. E. Smith, 1797)
Clouded Skipper. *R.*
Range: ST.

32. *Ancyloxypha numitor* (Fabricius, 1793)
Least Skipper. *R.*
= *Thymelicus puer* Hübner, [1823].
TL: "Florida".
Range: ST.

33. *Copaeodes minimus* (W. H. Edwards, 1870)
Southern Skipperling. *R.*
Range: ST.

34. *Hylephila phyleus phyleus* (Drury, 1773)
Fiery Skipper. *R.*
Range: ST.

35. *Hesperia attalus slossonae* (Skinner, 1890)
Dotted Skipper. *R.*
TL: "Florida".
= *Ocytes seminole* Scudder, [1871]
TL: "Florida to Texas".
Range: ST.

36a. *Hesperia meskei straton* (W. H. Edwards, 1881)
Meske's Skipper. *R.*
TL: "Indian River" [Florida].
Range: ST.
b. *H. meskei* ssp.
Rockland Grass skipper. *R, t.*
Undescribed subspecies.
Range: S (Keys). Endemic (possibly extinct).

37. *Polites baracoa baracoa* (Lucas, 1857)
Baracoa Skipper. *R.*
= *Pamphila myus* French, 1885.
TL: "Florida".
Range: N, C, S.

38. *Polites themistocles* (Latreille, [1824])
Tawny-edged Skipper. *R.*
Range: ST.

39. *Polites origenes origenes* (Fabricius, 1793)
Crossline Skipper. *R.*
Range: W, N, C.

40. *Polites vibex vibex* (Geyer, [1832])
Whirlabout. *R.*
Range: ST.

41. *Wallengrenia otho otho* (J. E. Smith, 1797)
Southern Broken-Dash. *R.*
Range: ST.

42. *Wallengrenia egeremet* (Scudder, 1864)
Northern Broken-Dash. *R.*
Range: W, N, C.

43. *Pompeius verna verna* (W. H. Edwards, 1862)
Little Glassywing. *R, r.*
Range: W, N.

44. *Atalopedes campestris huron* (W. H. Edwards, 1863)
Sachem. *R.*
Range: ST.

45. *Atrytone arogos arogos* (Boisduval & Leconte, [1834])
Arogos Skipper. *R, r.*
Range: N, C, S.

46. *Anatrytone logan logan* (W. H. Edwards, 1863)
Delaware Skipper. *R.*
Range: ST.

47. *Problema byssus byssus* (W. H. Edwards, 1880)
Byssus Skipper. *R.*
TL: "Indian River, Florida".
Range: ST.

*48. *Poanes hobomok hobomok* (Harris, 1862)
Hobomok Skipper. *U.*
Range: W?

49. *Poanes zabulon* (Boisduval & Leconte, [1834])
Zabulon Skipper. *R, r.*
Range: W, N, C.

50. *Poanes aaroni howardi* (Skinner, 1896)
Aaron's Skipper. *R.*
TL: "Georgiana [Brevard Co.], on the Indian River".
Range: ST.

51. *Poanes yehl* (Skinner, 1893)
Yehl Skipper. *R, r.*
TL: "Florida".
Range: W, N.

52. *Poanes viator zizaniae* Shapiro, 1971
Broad-winged Skipper. *R, r.*
Range: W, N.

53. *Euphyes arpa* (Boisduval & Leconte, [1834])
Palmetto Skipper. *R.*
Range: ST.

54a. *Euphyes pilatka pilatka* (W. H. Edwards, 1867)
Palatka Skipper. *R.*
TL: St. Augustine [St. Johns Co.], Florida.
Range: ST.
b. *E. pilatka klotzi* L. Miller, Harvey & J. Miller, 1985
Klotz' Skipper. *R, t.*
TL: Sugarloaf Key, Monroe Co., Florida.
Range: S (Keys). Endemic.

55. *Euphyes dion* (W. H. Edwards, 1879)
Dion Skipper. *R, r.*
Range: W, N.

56. *Euphyes dukesi calhouni* Shuey, 1996
Dukes' Skipper (subspecies; Florida Swamp Skipper). *R, r.*
TL: Cabbage Swamp, Pasco Co., Florida.
Range: N, C. Endemic.

57. *Euphyes berryi* (Bell, 1941)
Berry's Skipper. *R, r.*
TL: Monticello [Jefferson Co], Florida.
Range: ST.

58. *Euphyes vestris metacomet* (Harris, 1862)
Dun Skipper. *R.*
Range: ST.

59. *Asbolis capucinus* (Lucas, 1857)
Monk Skipper. *NR.*
Range: C, S.

*60a. *Atrytonopsis hianna hianna* (Scudder, 1868)
Dusted Skipper. *U*.
Range: W?

b. *A. hianna loammi* (Whitney, 1876)
Loammi Skipper. *R, r*.
TL: Jacksonville [Duval Co.], Florida.
= *Pamphila regulus* W. H. Edwards, 1881.
TL: "Upper St. Johns River, Orange Co., Florida". Orange Co. was previously much larger; type may actually have originated in what currently is Lake Co., Osceola Co., or Seminole Co.
= *Parnara apostologica* Strand, 1921.
TL: Stemer [Hillsborough Co.], Florida.
Range: N, C, S.

61. *Amblyscirtes hegon* (Scudder, 1864)
Pepper and Salt Skipper. *R, r*.
Range: W, N.

62. *Amblyscirtes aesculapius* (Fabricius, 1793)
Lace-winged Roadside Skipper. *R, r*.
= *Hesperia wakulla* W. H. Edwards, 1869.
TL: vicinity of Apalachicola [Franklin Co.], Florida.
Range: W, N, C.

*63. *Amblyscirtes reversa* Jones, 1926
Reversed Roadside-Skipper. *R?*
Range: N?

64. *Amblyscirtes vialis* (W. H. Edwards, 1862)
Common Roadside-Skipper. *R, r*.
Range: W.

65. *Amblyscirtes belli* H. A. Freeman, 1941
Bell's Roadside-Skipper. *R, r*.
Range: N.

66. *Amblyscirtes alternata* (Grote & Robinson, 1867)
Dusky Roadside-Skipper. *R, r*.
= *Amblyscirtes meridionalis* Dyar, 1905.
TL: "Georgia and Florida".
Range: N, C.

67. *Lerodea eufala eufala* (W. H. Edwards, 1869)
Eufala Skipper. *R*.
TL: vicinity of Apalachicola [Franklin Co.], Florida.
= *Pamphila floridae* Mabille, 1876.
TL: "Florida".
Range: ST.

68. *Oligoria maculata* (W. H. Edwards, 1865)
Twin-spot Skipper. *R*.
Range: ST.

69. *Calpodes ethlius* (Stoll, 1782)
Brazilian Skipper. *R*.
Range: ST.

70. *Panoquina panoquin* (Scudder, 1864)
Salt Marsh Skipper. *R*.
= *Hesperia ophis* W. H. Edwards, 1871.
TL: Apalachicola [Franklin Co.], Florida; restricted to St. George Island, Franklin Co., Florida, by Brown and Miller (1987).
Range: ST.

71. *Panoquina panoquinoides panoquinoides* (Skinner, 1891)
Obscure Skipper. *R*.
TL: Key West [Monroe Co.], Florida.
Range: ST.

72. *Panoquina ocola ocola* (W. H. Edwards, 1863)
Ocola Skipper. *R*.
TL: "Georgia; Florida; Texas"; restricted to Ocala, Marion Co., Florida, by Brown and Miller (1987).
Range: ST.

73. *Nyctelius nyctelius nyctelius* (Latreille, [1824])
Violet-banded Skipper. *S*.
Range: S (Keys).

Subfamily MEGATHYMINAE J. H. & A. Comstock

74a. *Megathymus yuccae yuccae* (Boisduval & Leconte, [1834])
Yucca Giant-Skipper. *R*.
Range: W.

b. *M. yuccae buchholzi* H. A. Freeman, 1952
R.
TL: Jupiter, Palm Beach Co., Florida.
Range: ST. Endemic?

75. *Megathymus cofaqui cofaqui* (Strecker, 1876)
Cofaqui Giant-Skipper. *R*.
TL: stated [in error] to be Boca Grande, Lee Co., Florida, by Freeman (1969) (actually "Georgia").
Range: N, C, S.

Superfamily PAPILIONOIDEA Latreille

Family PAPILIONIDAE Latreille

Subfamily PAPILIONINAE Latreille

76. *Battus philenor philenor* (Linnaeus, 1771)
Pipevine Swallowtail. *R*.
Range: ST.

77. *Battus polydamas lucayus* (Rothschild & Jordon, 1906)
Polydamas Swallowtail. *R*.
Range: N, C, S.

78. *Eurytides (Protographium) marcellus* (Cramer, 1777)
Zebra Swallowtail. *R*.
= fm. 'floridensis' Holland, 1898.
TL: "along St. Johns River in Florida".
Range: ST.

79. *Papilio polyxenes asterius* Stoll, 1782
Black Swallowtail. *R*.
= ab. 'forsythae' Wood, 1937.
TL: Florida City [Dade Co.], Florida.
Range: ST.

80. *Papilio (Heracleides) cresphontes* Cramer, 1777
Giant Swallowtail. *R*.
= ab. 'maxwelli' Franck, 1919.
TL: St. Petersburg [Pinellas Co.], Florida.
= ab. 'forsythae' Gunder, 1933.
TL: Florida City [Dade Co.], Florida.
Range: ST.

81. *Papilio (Heracleides) aristodemus ponceanus* Schaus, 1911
Schaus Swallowtail. *R, e*.
TL: Miami [Dade Co.], Florida.
Range: S (Keys; recently reintroduced to mainland). May not be endemic, but usually treated as such since the 1911 description of the Florida subspecies.

82. *Papilio (Heracleides) andraemon bonhotei* E. M. Sharpe, [1900]
Bahamian Swallowtail. *R, e*.
Range: S (Keys).

83. *Papilio (Heracleides) androgeus epidaurus* Godman & Salvin, 1890
Androgeus Swallowtail. *I*.
Range: S.

84a. *Papilio (Pterourus) glaucus glaucus* Linnaeus, 1758
Eastern Tiger Swallowtail. *R*.
Range: W, N.

b. *P. (P.) glaucus maynardi* Gauthier, 1984
TL: "Florida". *R*.
Perhaps more accurately considered a clinal phenotype.
=*P. glaucus australis* Maynard, 1891.
TL: "Florida".
Range: ST.

85a. *Papilio (Pterourus) troilus troilus* Linnaeus, 1758
Spicebush Swallowtail. *R*.
Range: W, N.

b. *P. (P.) troilus texanus* Ehrmann, 1900
R.
Perhaps more accurately considered a clinal phenotype.
Range: ST.

86. *Papilio (Pterourus) palamedes palamedes* Drury, 1773
Woodlands Swallowtail. *R*.
Range: ST.

Family PIERIDAE Duponchel

Subfamily PIERINAE Duponchel

87. *Appias drusilla neumoegeni* (Skinner, 1894)
Florida White. *R, ssc*.
TL: "Indian River, Florida".
=ab. 'hollandi' Rober in Seitz, 1909.
TL: [Indian River, (Brevard Co.) Florida].
Based on specimen figured in Holland (1898) (Pl. 35, fig. 5),
deposited in the Carnegie Museum of Natural History.
Range: S.

88. *Pontia protodice* (Boisduval & Leconte, 1829)
Checkered White. *R*.
Range: ST.

89. *Pieris rapae* (Linnaeus, 1758)
Cabbage White. *NR*.
Range: ST.

90a. *Ascia monuste phileta* (Fabricius, 1775)
Great Southern White. *R*.
=?*A. monuste crameri* Holland, 1931.
TL: not formally stated, but Holland (1931) alludes to specimens
from Florida that resemble a figure in Cramer [1775-76] which
depicts a specimen that likely originated in South America. This
taxon should be synonymized under *A. m. monuste* (Linnaeus,
1764) (see Calhoun, 1997).
Range: ST.

b. *A. monuste eubotea* (Godart, 1819)
S.
Range: S (Keys).

Subfamily ANTHOCHARINAE Tutt

91. *Paramidea midea annickae* (dos Passos & Klots, 1969)
Falcate Orangetip. *R?*
Range: W.

Subfamily COLIADINAE Swainson

92. *Colias philodice philodice* Godart, [1819]
Clouded Sulphur. *I?*
May not reproduce in Florida.
Range: N, C.

93. *Colias eurytheme* Boisduval, 1852
Orange Sulphur. *R*.
Range: ST.

94. *Zerene cesonia cesonia* (Stoll, 1790)
Southern Dogface. *R*.
Range: ST.

95. *Anteos maerula* (Fabricius, 1775)
Yellow Angled-Sulphur. *I?*
May not reproduce in Florida.
Range: S.

96a. *Phoebe sennae sennae* (Linnaeus, 1758)
Cloudless Sulphur. *I?*.
Florida specimens may be forms of *P. s. eubule*.
Range: S (Keys).

b. *P. sennae eubule* (Linnaeus, 1767)
R.
Range: ST.

97. *Phoebe philea philea* (Linnaeus in Johansson, 1763)
Orange-barred Sulphur. *NR*.
Range: N, C, S.

98. *Phoebe agarithe maxima* (Neumoegen, 1891)
Large Orange Sulphur. *R*.
TL: "Upper Indian River, Fla".
Range: C, S. Endemic.

99. *Phoebe statira floridensis* (Neumoegen, 1891)
Statira Sulphur. *R, ssc*.
TL: "Upper Indian River, Fla".
Range: C, S. Endemic.

100. *Phoebe orbis orbis* (Poey, 1832)
Orbed Sulphur. *S*.
Range: S (Keys).

101. *Kricogonia lyside* (Godart, 1819)
Lyside Sulphur. *R?, ssc*.
Range: S.

102a. *Eurema daira daira* (Godart, 1819)
Barred Yellow. *R*.
=fm. 'delioides' Haskin, 1933.
TL: Auburndale [Polk Co.], Florida.
Range: ST.

b. *E. daira palmira* (Poey, 1853)
I.
Range: S.

103. *Eurema boisduvalianum* (C. & R. Felder, [1865])
Boisduval's Yellow. *S* (possibly *AI*).
Range: S.

104. *Eurema lisa lisa* (Boisduval & Leconte, 1829)
Little Yellow. *R*.
=?*Terias clappi* Maynard, 1891.
TL: Enterprise [Volusia Co.], Florida.
Range: ST.

105. *Eurema nise nise* (Cramer, 1775)
Mimosa Yellow. *R?, ssc*.
Range: S.

*106. *Eurema messalina blakei* (Maynard, 1891)
Shy Yellow. *S?*.
Paratype purportedly from Sanford [Seminole Co.], Florida.
Range: C.

107. *Eurema dina helios* M. Bates, 1934
Dina Yellow. *NR, ssc*.
Range: S.

108. *Eurema nicippe* (Cramer, 1779)
Sleepy Orange. *R*.
Range: ST.

109 *Nathalis iole* Boisduval, 1836
Dainty Sulphur. *NR*.
Range: N, C, S.

Family LYCAENIDAE Leach

Subfamily MILETINEAE Corbet

110. *Feniseca tarquinius tarquinius* (Fabricius, 1793)
Harvester. *R*.
Range: W, N, C.

Subfamily THECLINAE Swainson

111. *Eumaeus atala florida* Röber, 1926
Atala. *R, ssc*.
TL: "Florida."
= *E. atala grayi* Comstock & Huntington, 1943.
TL: Miami, Dade Co., Florida.
Range: S. Usually regarded as endemic, but Florida subspecies may not be valid (see discussion in Smith *et al.*, 1994).

112. *Atlides halesus halesus* (Cramer, 1777)
Great Purple Hairstreak. *R*.
= *Thecla juanita* Scudder, 1868.
TL: "Pilatka" [Palatka, Putnam Co.], Florida.
Range: W, N, C.

113. *Chlorostrymon maesites maesites* (Herrich-Schäffer, 1864)
Amethyst Hairstreak. *R, t*.
Range: S.

114. *Chlorostrymon simaethis simaethis* (Drury, 1770)
Silver-banded Hairstreak. *NR*.
Range: S.

115. *Satyrium titus mopsus* (Hübner, [1818])
Coral Hairstreak. *R, r*.
Although the type locality was given as "Aus Georgien in Florida", it is currently restricted to Georgia (the German notation means the Georgia portion of what was called the region of "Florida"). In *Satyrium* (not *Harkenclenus*), according to R. K. Robbins (pers. comm.)
Range: W.

116a. *Satyrium calanus calanus* (Hübner, [1809])
Banded Hairstreak. *R*.
= *Thecla wittfeldii* W. H. Edwards, 1883.
TL: "Indian River, Florida"; restricted to vicinity of Georgiana, Brevard Co., Florida, by Brown (1970).
Range: W, N, C.

b. *S. calanus falacer* (Godart, [1824])
R.
Range: W.

117. *Satyrium kingi* (Klots & Clench, 1952)
King's Hairstreak. *R, r*.
Range: W.

118a. *Satyrium liparops liparops* (Leconte, 1833)
Striped Hairstreak. *R, r*.
Range: N, C.

b. *S. liparops strigosum* (Harris, 1862)
R.
Range: W.

119. *Ministrymon azia* (Hewitson, 1873)
Gray Ministreak. *NR*.
Range: C, S.

120. *Calycopis cecrops* (Fabricius, 1793)
Red-banded Hairstreak. *R*.
Range: ST.

121a. *Callophrys grynea grynea* (Hübner, [1819])
Olive Juniper Hairstreak. *R*.
Range: W.

b. *C. grynea sweadneri* (F. H. Chermock, 1940)
Sweadner's Juniper Hairstreak (St. Augustine Hairstreak). *R*.
TL: St. Augustine [St. Johns Co.], Florida.
Range: W, N, C. Endemic.

122. *Callophrys hesseli* (Rawson & Ziegler, 1950)
Hessel's Hairstreak. *R, r*.
May represent an undescribed endemic subspecies.
Range: W.

123. *Callophrys irus* ssp. (Godart, [1824])
Frosted Elfin. *R, r*.
Undescribed subspecies (or may represent a sibling species).
Range: N. Endemic?

124. *Callophrys henrici margaretae* (dos Passos, 1943)
Henry's Elfin. *R*.
TL: "eight miles east of DeLand [Volusia Co.], Florida".
Range: W, N, C.

125. *Callophrys niphon niphon* (Hübner, [1823])
Eastern Pine Elfin. *R, r*.
TL: "Florida".
Range: W, N, C.

126a. *Fixsenia favonius favonius* (J. E. Smith, 1797)
Southern Hairstreak. *R*.
Range: ST.

b. *F. favonius ontario* (W. H. Edwards, 1868)
Northern Hairstreak. *R*.
Range: W, N.

127. *Parrhasius m-album m-album* (Boisduval & Leconte, [1833])
White M Hairstreak. *R*.
Range: ST.

128. *Strymon melinus melinus* Hübner, [1818]
Gray Hairstreak. *R*.
= *Thecla hyperici* Boisduval & Leconte, [1833].
TL: "Georgia and Florida".
=ab. 'youngi' Field, 1936.
TL: Miami [Dade Co.], Florida.
Range: ST.

129. *Strymon acis bartrami* (Comstock & Huntington, 1943)
Bartram's Scrub-Hairstreak. *R, r*.
TL: Miami [Dade Co.], Florida.
Range: S. Endemic.

130. *Strymon columella modesta* (Maynard, 1873)
Mallow Scrub-Hairstreak. *R*.
TL: Key West [Monroe Co.], Florida.
Range: S.

132. *Strymon limenia* (Hewitson, 1868)
Disguised Scrub-Hairstreak. *I*.
Range: S (Keys).

133. *Electrostrymon sangala* (Hewitson, 1868)
Ruddy Hairstreak. *AI*.
Single Florida specimen formerly misidentified as *Electrostrymon endymion* (Fabricius, 1775) (teste R. K. Robbins, USNM).
Range: S (Keys).

134. *Electrostrymon angelia angelia* (Hewitson, 1874)
Fulvous Hairstreak. *NR*.
Range: C, S.

Subfamily POLYOMMATINAE Swainson

135. *Brephidium isophthalma pseudofea* (Morrison, 1873)
Eastern Pygmy Blue. *R.*
May be conspecific with *Brephidium exilis* (Boisduval, 1852).
TL: Key West [Monroe Co.], Florida.
Range: N, C, S.

136. *Leptotes cassius theonus* (Lucas, 1857)
Cassius Blue. *R.*
= *Lycaena floridensis* Morrison, 1873.
TL: Key West [Monroe Co.], Florida.
Range: N, C, S.

137. *Cyclargus thomasi bethunebakeri* (Comstock & Huntington, 1943)
Miami Blue. *R, ssc.*
TL: Miami [Dade Co.], Florida.
Range: S.

138. *Hemiarthus ceraunus antibubastus* Hübner, [1818]
Ceraunus Blue. *R.*
Range: ST.

139. *Erees comyntas comyntas* (Godart, [1824])
Eastern Tailed-Blue. *R, r.*
Range: W, N.

140. *Celastrina neglecta* (W. H. Edwards, 1862)
Summer Azure. *R.*
Range: W, N.

141. *Celastrina ladon* (Cramer, 1780)
Edwards' Azure. *R.*
Range: W, N.

Family RIODINIDAE Grote

Subfamily RIODININAE Grote

142. *Calephelis virgininiensis* (Guérin-Méneville, [1831])
Little Metalmark. *R.*
Range: ST.

Family NYMPHALIDAE Swainson

Subfamily LIBYTHEINAE Boisduval

143. *Libytheana carinenta bachmanii* (Kirtland, 1851)
American Snout. *R.*
Range: W, N, C.

Subfamily HELICONIINAE Swainson

144. *Agraulis vanillae nigrior* Michener, 1942
Gulf Fritillary. *R.*
TL: Upper Matecumbe Key [Monroe Co.], Florida.
Range: ST.

*145. *Dryadula phaetusa* (Linnaeus, 1758)
Banded Orange Heliconian. *AI.*
Range: S.

146. *Dryas iulia largo* Clench, 1975
Julia. *R.*
TL: Key Largo, Monroe Co., Florida.
Range: S. Endemic.

147. *Heliconius charitonius tuckeri* Comstock & F. M. Brown, 1950
Zebra. *R.*
State Butterfly of Florida.
TL: Winter Park [Orange Co.], Florida.
Range: C, S.

148. *Euptoieta claudia* (Cramer, 1775)

Variagated Fritillary. *R.*
Range: ST.

*149. *Speyeria cybele cybele* (Fabricius, 1775)

Great Spangled Fritillary. *U.*
Range: N.

Subfamily NYMPHALINAE Swainson

150. *Chlosyne nycteis nycteis* (Doubleday, [1847])
Silvery Checkerspot. *R, r.*
Range: W.

151. *Anthanassa texana seminole* (Skinner, 1911)
Seminole Crescent. *R.*
May be a separate species on the basis of biological data supplied by Watts and Habbeck (1990), as well as ecological and behavioral differences.
Range: W, N, C.

152. *Anthanassa frisia frisia* (Poey, 1832)
Cuban Crescent. *R.*
Range: S.

153. *Phyciodes phaon* (W. H. Edwards, 1864)
Phaon Crescent. *R.*
Range: ST.

154. *Phyciodes tharos tharos* (Drury, 1773)
Pearl Crescent. *R.*
Range: ST.

155. *Polygonia interrogationis* (Fabricius, 1798)
Question Mark. *R.*
Range: W, N, C.

156. *Polygonia comma* (Harris, 1842)
Eastern Comma. *R, r.*
Range: W, N.

157. *Nymphalis vaualbum j-album* (Boisduval & Leconte, [1833])
Compton Tortoiseshell. *S.*
Range: N.

158. *Nymphalis antiopa antiopa* (Linnaeus, 1758)
Mourning Cloak. *R, r.*
Range: W, N, C.

159. *Vanessa virgininiensis* (Drury, 1773)
American Lady. *R.*
Range: ST.

160. *Vanessa cardui* (Linnaeus, 1758)
Painted Lady. *I.*
Range: ST.

161. *Vanessa atalanta rubria* (Fruhstorfer, 1909)
Red Admiral. *R.*
Range: ST.

162. *Hypolimnas misippus* (Linnaeus, 1764)
Mimic. *I.*
Range: C, S.

163. *Junonia coenia* Hübner, [1822]
Common Buckeye. *R.*
Range: ST.

164. *Junonia genoveva* (Stoll, 1782)
Tropical Buckeye. *I.*
Range: S.

165. *Junonia evarete* (Cramer, 1779)
Mangrove Buckeye. *R, ssc.*
Range: C, S.

166. *Anartia jatrophae guantanamo* Munroe, 1942
White Peacock. *R.*
Range: C, S.

167. *Anartia chrysopelea* Hübner, [1824]
Caribbean Peacock. *I?*
Range: S.

168. *Siproeta stelenes biplagiata* (Fruhstorfer, 1907)
Malachite. *NR?*
Range: S.

Subfamily LIMENITIDINAE Behr

169. *Basilarchia arthemis astyanax* (Fabricius, 1775)
Red-spotted Purple. *R.*
Range: W, N, C.

170a. *Basilarchia archippus archippus* (Cramer, 1776)
Viceroy. *R.*
Range: W, N.

b. *B. archippus floridensis* (Strecker, 1878)
R.
TL: "Florida and other parts of the south".
= *Limenitis eros* W. H. Edwards, 1880.
TL: "Indian River [Florida]"; restricted to the vicinity of Georgiana, Brevard Co., Florida, by Brown (1967)
=ab. 'nig' Strecker, 1878.
TL: "Florida".
=ab. 'nigricans' Strecker, 1900.
TL: "Florida".
=ab. 'halli' Watson & Comstock, 1920.
TL: "Florida".
Range: N, C, S. Endemic.

171. *Eunica monima* (Stoll, 1782)
Dingy Purplewing. *NR?*, *ssc.*
Range: S.

172. *Eunica tatila tatilista* Kaye, 1926
Florida Purplewing. *R*, *ssc.*
Range: S.

*173. *Diaethria clymena* (Cramer, 1776)
Cramer's Eight-eight. *AI.*
Range: S.

174. *Hamadryas amphichloe diasia* (Fruhstorfer, 1916)
Pale Cracker. *I?*
May not reproduce in Florida.
Range: S.

*175. *Historis odius odius* (Fabricius, 1775)
Orion. S
May have reproduced at least once in Florida.
Range: S.

176. *Marpesia chiron* (Fabricius, 1775)
Many-banded Daggerwing. *S.*
Range: S (Keys).

177. *Marpesia petreus* (Cramer, 1776)
Ruddy Daggerwing. *R.*
Range: S.

178. *Marpesia eleuchea eleuchea* Hübner, [1818]
Antillean Daggerwing. *S.*
Range: S.

Subfamily CHARAXINAE Guenée

179. *Anaea troglodyta floridalis* F. Johnson & Comstock, 1941
Florida Leafwing. *R, t.*
TL: Florida City, Dade Co., Florida.
=fm. 'floraesta' Johnson & Comstock, 1941.
TL: Brickell Hammock, Miami, Dade Co., Florida.
Range: S. Endemic.

180. *Anaea andria* Scudder, 1875
Goatweed Leafwing. *R.*
Range: W, N.

Subfamily APATURINAE Boisduval

181a. *Asterocampa celtis celtis* (Boisduval & Leconte, [1834])
Hackberry Emporer. *R.*
Range: W.

b. *A. celtis reinthali* Friedlander, [1988]
R.
TL: Ocoee, Orange Co., Florida.
Range: N, C.

182a. *Asterocampa clyton clyton* (Boisduval & Leconte, [1833])
Tawny Emperor. *R.*
Range: W.

b. *A. clyton flora* (W. H. Edwards, 1876)
R.
TL: Palatka [Putnam Co.], Florida.
Range: N, C, S.

Subfamily SATYRINAE Boisduval

183a. *Enodia portlandia portlandia* (Fabricius, 1781)
Southern Pearly-Eye. *R.*
Range: W, N.

b. *E. portlandia floralae* (J. R. Heitzman & dos Passos, 1974)
R.
TL: Rock Springs, Orange Co., Florida.
Range: N, C. Endemic.

184. *Satyrodes appalachia appalachia* (R. L. Chermock, 1947)
Appalachian Brown. *R, r.*
Range: W, N, C.

185. *Cyllopsis gemma gemma* (Hübner, [1808])
Gemmed Satyr. *R.*
Range: W, N, C.

186. *Hermeuptychia sosybius* (Fabricius, 1793)
Carolina Satyr. *R.*
= *H. hermes kappeli* Anken, 1993.
TL: "Lake Okeechobee (Nord), Florida".
Range: ST.

187. *Neonympha areolata areolata* (J. E. Smith, 1797)
Georgia Satyr. *R.*
Range: ST.

188a. *Megisto cymela cymela* (Cramer, 1777)
Little Wood-Satyr. *R.*
Range: W, N.

b. *M. cymela viola* (Maynard, 1891)
Viola's Wood-Satyr. *R.*
TL: Enterprise, [Volusia Co.], Florida. Treated as a separate species by some authors; Catling and Calhoun (1997) concluded that this taxon should be considered a subspecies.
Range: C. Endemic.

189. *Cercyonis pegala pegala* (Fabricius, 1775)
Common Wood-Nymph. *R.*
= *C. pegala abbotti* F. M. Brown, 1969.
TL: Chipley [Washington Co.], Florida.
Range: W, N.

Subfamily DANAINAE Duponchel

190. *Danaus plexippus plexippus* (Linnaeus, 1758)
Monarch. R/I (both resident and immigrant populations present).
Range: ST.

191. *Danaus gilippus berenice* (Cramer, 1780)
Queen. R.
Range: ST.

192. *Danaus eresimus* ssp. (Cramer, 1777)
Soldier. NR.
Subspecies uncertain (see Calhoun 1996).
Range: C, S.

*193. *Lycorea cleobaea demeter* C. & R. Felder, [1865]
Tiger Mimic-Queen. S
May have reproduced at least once in Florida.
Range: S.

ACKNOWLEDGEMENTS

I wish to thank Philip R. Ackery and Julia E. Pope (The Natural History Museum, London, England), E. A. Armstrong (Museum of Comparative Zoology, Cambridge, MA), Donald Azuma (The Academy of Natural Sciences, Philadelphia, PA), John M. Burns (National Museum of Natural History, Washington, DC), Julian P. Donahue (Los Angeles County Museum of Natural History, Los Angeles, CA), John B. Heppner (Florida State Collection of Arthropods, Gainesville, FL), Timothy L. McCabe (New York State Museum, Albany, NY), Kathleen R. Methven (Illinois Natural History Survey, Urbana, IL), Jacqueline Y. Miller and Lee D. Miller (Allyn Museum of Entomology, Sarasota, FL), Mark F. O'Brian (University of Michigan, Ann Arbor, MI), Philip P. Parrillo (Field Museum of Natural History, Chicago, IL), John E. Rawlins (Carnegie Museum of Natural History, Pittsburgh, PA), Frederick H. Rindge (American Museum of Natural History, New York, NY), and Sonja E. Teraguchi (Cleveland Museum of Natural History, Cleveland, OH), for loaning specimens and/or providing information on specimens deposited in the collections under their care. I am also indebted to many other individuals for valuable information, including David C. Iftner, Marc C. Minno, Paul A. Opler, David B. Ritland, Kilian Roever, Jeffrey R. Slotten, Andrei Sourakov, and Thomas W. Turner. Robert K. Robbins provided helpful advice (including an unpublished manuscript) on the generic treatment of various Theclinae and identification of the specimen of *Electrostrymon sangala*. David M. Wright continues to unselfishly supply me with the results of his continuing research on the genus *Celastrina*. Marc C. Minno critically reviewed the manuscript. Finally, a number of institutional libraries, too numerous to mention, supplied copies of obscure publications.

LITERATURE CITED

Bartram, W.

1791. *Travels through North and South Carolina, Georgia, East and West Florida, the Cherokee Country, the Extensive Territories of the Muscogulges, or Creek Confederacy, and the Country of the Choctaws; Containing an Account of the Soil and Natural Productions of those Regions; Together with Observations on the Manners of the Indians*. Philadelphia: James and Johnson. 520pp.

Bell, C. R. and B. J. Taylor

1982. *Florida Wild Flowers and Roadside Plants*. Chapel Hill: Laurel Hill Pr. 308pp.

Brown, F. M.

1967. The types of the Nymphalid butterflies described by William Henry Edwards. Part III, Nymphalidae, Limenitidinae, Apaturi-

nae and Charaxinae. *Trans. Amer. Ent. Soc.* (Philadelphia), 93:319-393.

1970. The types of Lycaenid butterflies named by William Henry Edwards. Part III, Plebejinae. With four neotypes established by John C. Downey. *Trans. Amer. Ent. Soc.* (Philadelphia), 96:353-433.

Brown, F. M., and L. D. Miller

1987. The types of the hesperiid butterflies described by William Henry Edwards. Part II, Hesperiidae: Hesperiinae, Section III and Megathymidae. *Trans. Amer. Ent. Soc.* (Philadelphia), 113:29-71.

Burns, J. M.

1994. Genitalia at the generic level: *Atrytone* restricted, *Anatrytone* resurrected, new genus *Quasimellana* – and yes! We have no *Mellanas* (Hesperiidae). *J. Lepid. Soc.* (Los Angeles), 48:273-337.

Calhoun, J. V.

1993. Designation of a lectotype of *Nisoniades somnus* and notes on the occurrence of *Erynnis icelus* in Florida (Hesperiidae). *J. Lepid. Soc.* (Los Angeles), 47:49-54.

1995. William Wittfeld: the Florida connection. *J. Lepid. Soc.* (Los Angeles), 48:58-67.

1996. Conquering soldiers: the successful invasion of Florida by *Danaus eresimus* (Lepidoptera: Nymphalinae). *Holarctic Lepid.* (Gainesville), 3:7-18.

1997. Notes on the taxonomic status of *Ascia monuste crameri*. *Holarctic Lepid.* (Gainesville), 4:25-26.

Catling, P. M., and J. V. Calhoun

1997. Genus *Megisto* in Florida and the taxonomic status of *Megisto viola* (Nymphalidae: Satyrinae). *Holarctic Lepid.* (Gainesville), 4:27-33.

Cramer, P.

1775-76. *Papillons exotiques de trois parties du monde l'Asie, l'Afrique et l'Amérique*. Vols. I-II. Amsterdam: S. J. Baalde. 192 pp, 152 pl.

Deyrup, M., and R. Franz (eds.)

1994. *Rare and Endangered Biota of Florida. Volume IV. Invertebrates*. Gainesville: Univ. Pr. Florida. 798pp.

Doubleday, E.

1838. Communications on the natural history of North America. *Ent. Mag.* (London), 4:487-488; 5:21-34, 199-206, 269-300, 402-407, 409-417.

Ferris, C. D. (ed.)

1989. *Supplement to: A Catalogue/Checklist of the Butterflies of America North of Mexico*. Los Angeles: Lepid. Soc. (Memoir 3). 103pp.

Freeman, H. A.

1969. Notes on *Megathymus yuccae* (Boisduval & Le Conte), with description of a new subspecies (Lepidoptera, Rhopalocera, Megathymidae). *Field and Lab.* (Dallas), 20:29-33.

Gerberg, E. G., and R. H. Arnett, Jr.

1989. *Florida Butterflies*. Baltimore: Natural Sci. Publ. 90 pp.

Grossbeck, J. A.

1917. Lepidoptera. In F. E. Watson (ed.), *Insects of Florida. IV. Bull. Amer. Mus. Nat. Hist.* (New York), 37:1-147.

Harvey, D. J.

1991. Higher classification of the Nymphalidae. In H. F. Nijhout, *The Development and Evolution of Butterfly Wing Patterns*, 255-273. Washington: Smithson. Inst. Pr. 297pp.

Heppner, J. B.

1982. Dates of selected Lepidoptera literature for the Western Hemisphere fauna. *J. Lepid. Soc.* (Los Angeles), 36:87-111.

1997. Woodlands swallowtail. *Lepid. News* (Gainesville), 1997(3):5.

(in prep.). *Checklist: Part 2. Butterflies*. In *Atlas of North American Lepidoptera*. Vol. 2. Gainesville: Assoc. Trop. Lepid.

Heppner, J. B. (with W. L. Adair, Jr., H. D. Baggett, T. S. Dickel, L. C. Dow, T. C. Emmel, and D. H. Habeck)

(in prep. a). *Lepidoptera of Florida. Part 1: Introduction and Checklist*. In *Arthropods of Florida and Neighboring Land Areas*. 17. Gainesville: Div. Plant Indus., Fla. Dept. Agric. Consumer Serv.

(in prep. b). *Lepidoptera of Florida. Part 2: Catalog and Hostplants*. In *Arthropods of Florida and Neighboring Land Areas*. 18. Gainesville: Div. Plant Indus., Fla. Dept. Agric. Consumer Serv.

Higgins, L. G.

1981. A revision of *Phyciodes* Hübner and related genera, with a review of the classification of the Melitaeinae (Lepidoptera: Nymphalidae). *Bull. Br. Mus. Nat. His. (Ent.)* (London), 43:77-243.

Holland, W. J.

1898. *The Butterfly Book*. New York: Doubleday. 382pp.

Johnson, K., and Z. Bálint

1995. Distinction of *Pseudochrysops*, *Cyclargus*, *Echinargus*, and *Hemiarus* in the Neotropical Polyommatus (Lepidoptera, Lycaenidae). *Rep. Mus. Nat. Hist., Univ. Wisconsin* (Stevens Point), 54:1-14.

Kimball, C. P.

1965. *The Lepidoptera of Florida, an Annotated Checklist*. In *Arthropods of Florida and Neighboring Land Areas*. Vol. 1. Gainesville: Div. Plant Indus., Fla. Dept. Agric. 363pp, 26 pl.

Miller, L. D., and F. M. Brown

1981. *A Catalogue/Checklist of the Butterflies of America North of Mexico*. Los Angeles: Lepid. Soc. (Memoir 2). 280pp.

North American Butterfly Association

1995. *Checklist and English Names of North American Butterflies*. Morristown: N. Amer. Butterfly Assoc. 43pp.

Opler, P. A., H. Pavulaan, and R. E. Stanford

1995. *Butterflies of the United States*. Jamestown: N. Prairie Sci. Ctr. Home Page (Version 06Mar97). <http://www.npsc.nbs.gov/resource/distr/lepid/bflyusa/bflyusa/htm>.

Ord, G.

1859. A memoir of Thomas Say. In J. L. Le Conte (ed.), *The Complete Writings of Thomas Say on the Entomology of North America*, 1:vii-xxi. New York: Baillière. 412pp, 54 pl.

Robbins, R. K., and M. Duarte

(in press). Morphology, systematics, and distribution of the potentially threatened hairstreak, *Cyanophrys berthae* (Theclinae: Eumaeini). *J. Lepid. Soc.* (Los Angeles).

Scott, J. A.

1986. *The Butterflies of North America: a Natural History and Field Guide*. Stanford: Stanford Univ. Pr. 583pp.

Shuey, J. A.

1993. Phylogeny and biogeography of *Euphyes* Scudder (Hesperiidae). *J. Lepid. Soc.* (Los Angeles), 47:261-278.

Smith, D. S., L. D. Miller and J. Y. Miller

1994. *Butterflies of the West Indies and South Florida*. Oxford: Oxford Univ. Pr. 264pp.

Sourakov, A.

1995. Systematics, evolutionary biology and population genetics of the *Cercyonis pegala* group. *Holarctic Lepid.* (Gainesville), 2:1-20.

Tyler, H. A., K. S. Brown, Jr. and K. H. Wilson

1994. *Swallowtail Butterflies of the Americas: a Study in Biological Dynamics, Ecological Diversity, Biosystematics, and Conservation*. Gainesville: Scientific Publ. 376pp.

Watts, J. R., and D. H. Habeck

1991. Immature stages of *Anthonassa texana seminole* (Lepidoptera: Nymphalidae). *Trop. Lepid.* (Gainesville), 2:103-106.

APPENDIX: Erroneous Florida Records

The following species and subspecies have been reported from Florida, but the records are highly questionable or clearly inaccurate. The majority are based on erroneous literature reports (*E*) of misidentified or unverifiable specimens (including inappropriate subspecies). Two species were reported on an Internet Web page. Dubious specimen records (*D*) require further substantiation (many certainly are mislabeled). Brief remarks accompany each dubious specimen record. A number of these records have been perpetuated in the literature for many years without verification. More detailed information will be provided in a future publication. Additional taxa undoubtedly await inclusion.

HESPERIIDAE

1. *Phocides pigmalion batabano* (Lucas, 1857). *E*.
2. *Erynnis persius* (Scudder, 1863). Persius Duskywing. *E*.
3. *Pyrrhocales jamaicensis* (Schaus, 1902). Schaus' Tawny Skipper. *E*.
4. *Hesperia uncas* W. H. Edwards, 1863. Uncas Skipper. *E*.
5. *Hesperia leonardus* Harris, 1862. Leonard's Skipper. *E*.
6. *Hesperia metea* Scudder, 1864. Cobweb Skipper. *E*.
7. *Hesperia attalus attalus* (W. H. Edwards, 1871). *E*.
8. *Hesperia sassacus* Harris, 1862. Indian Skipper. *E*.
9. *Polites peckius* (W. Kirby, 1837). Peck's Skipper. *E*.
10. *Problema bulenta* (Boisduval & Leconte, [1834]). Rare Skipper. *E*.
11. *Poanes massasoit* (Scudder, 1864). Mulberry Wing. *E*.
12. *Choranthus radians* (Lucas, 1856). Radiant Skipper. *E/D*.
=Pamphila streckeri Skinner, 1893. TL: "Florida".
At least one record may be valid.
13. *Choranthus haitensis* (Skinner, 1920). Haitian Skipper. *E/D*.
Specimens probably mislabeled.
14. *Choranthus vitellius* (Fabricius, 1793). V-mark Skipper. *E/D*.
Specimens probably mislabeled. Most literature records confused with *A. logan*.
15. *Euphyes conspicuus* (W. H. Edwards, 1863). Black Dash. *D*.
Single specimen; undoubtedly mislabeled.
16. *Euphyes bimacula* (Grote & Robinson, 1867). Two-spotted Skipper. *E*.
17. *Amblyscirtes celia* Skinner, 1895. Celia's Roadside-Skipper. *E*.
18. *Amblyscirtes texanae* Bell, 1927. Texas Roadside-Skipper. *E*.
19. *Panoquina hecebolus* (Scudder, 1872). Hecebolus Skipper. *E*.
20. *Panoquina nero* (Fabricius, 1798). Haitian White-barred Skipper. *E*.
21. *Panoquina sylvicola* (Herrich-Schäffer, 1865). Purple-washed Skipper. *E*.
22. *Thespieus macareus* (Herrich-Schäffer, 1869). Chestnut-marked Skipper. *E*.
23. *Megathymus cofaqui harrisi* H. A. Freeman, 1955. *E*.
All specimens of *M. cofaqui* from northwest Florida are currently considered to represent the nominate subspecies (K. Roever, pers. comm.).

PAPILIONIDAE

24. *Battus polydamas polydamas* (Linnaeus, 1758). *E*.
25. *Battus devilliers* (Godart, [1824]). DeVilliers Swallowtail. *E/D*.
May stray into Florida, but known specimens probably are mislabeled.
26. *Eurytides celadon* (Lucas, 1852). Celadon Swallowtail. *E/D*.
May stray into Florida, but known specimens probably are mislabeled.
27. *Papilio thoas* Linnaeus, 1771. Thoas Swallowtail. *E/D*.
All specimens probably mislabeled. Most literature records confused with *P. cresphontes*.

PIERIDAE

28. *Aprias drusilla poeyi* Butler, [1872]. *E*.
29. *Zerene eurydice* (Boisduval, 1855). California Dogface. *E*.
30. *Anteos clorinde* (Godart, [1824]). White Angled-Sulphur. *E*.
31. *Phoebeis argante* (Fabricius, 1775). Apricot Sulphur. *E/D*.
All specimens probably mislabeled.
32. *Eurema elathea* (Cramer, 1775). False Barred Sulphur. *E*.
33. *Eurema proteria* (Fabricius, 1775). Tailed Orange. *D*.
Single specimen; possibly intentionally mislabeled.
34. *Eurema lisa euterpe* (Ménétriers, 1832). *E*.
35. *Eurema chamberlaini* (Butler, 1897). Chamberlain's Sulphur. *D*.
Single specimen possibly lost; probably a variant of *E. dina*.

36. *Eurema nise nelphe* (R. Felder, 1869). *E.*
 37. *Eurema dina dina* (Poey, 1833). *E.*

LYCAENIDAE

38. *Lycaena phlaeas americana* Harris, 1862. American Copper. *D.*
 =ab. 'fasciata' Strecker.
 TL: "Florida".
 Type of 'fasciata' is only known Florida specimen; probably mislabeled.

39. *Lycaena hyllus* (Cramer, 1775). Bronze Copper. *D.*
 Purported specimen lost or never existed.

40. *Eumaeus minijas* (Hübner, [1809]). White-Rim Cycadian. *D.*
 Single specimen possibly lost; identification questionable.

41. *Eumaeus toxea* (Godart, [1824]). Mexican Cycadian. *E.*
 Erroneously assumed to be actual identity of Floridian "E. minijas" specimen (see above).

42. *Chlorostrymon telea* (Hewitson, 1868). Telea Hairstreak. *E.*

43. *Chlorostrymon simaethis sarita* (Skinner, 1895). *E.*

44. *Satyrium edwardsii* (Grote & Robinson, 1867). Edward's Hairstreak. *D.*
 Specimens represent northeastern North American phenotype; undoubtedly mislabeled.

45. *Callophrys nelsoni* (Boisduval, 1869). Nelson's Hairstreak. *E.*

46. *Callophrys grynea smilacis* (Boisduval & Leconte, [1833]). *E.*

47. *Callophrys augustinus* (W. Kirby, 1873). Brown Elfin. *E.*

48. *Callophrys henrici henrici* (Grote & Robinson, 1867). *E.*

49. *Strymon rufofuscus* (Hewitson, 1877). Red-crescent Scrub Hairstreak. *E.*

50. *Electrostrymon endymion* (Fabricius, 1794). Endymion Hairstreak. *E.*

51. *Brephidium exile* (Boisduval, 1852). Western Pygmy-Blue. *E*

52. *Cyclargus ammon* (Lucas, 1857). Lucas' Blue. *E/D.*
 One lost specimen may have been valid. Literature records confused with *C. thomasi*.

53. *Leptotes marina* (Reakirt, 1868). Marine Blue. *E.*

54. *Hemiaricus isola* (Reakirt, 1866). Reakirt's Blue. *D.*
 Single specimen; probably mislabeled.

55. *Philotes sonorensis* (C. & R. Felder, 1865). Sonoran Blue. *D.*
 Single specimen; undoubtedly mislabeled.

NYMPHALIDAE

56. *Dryas iulia moderata* (Riley, 1926). *E.*

57. *Euptoieta hegesia* (Cramer, 1790). Mexican Fritillary. *D.*
 All specimens probably mislabeled.

58. *Speyeria diana* (Cramer, 1775). Diana Fritillary. *E.*

59. *Speyeria idalia* (Drury, 1773). Regal Fritillary. *E.*

60. *Chlosyne gorgone* (Hübner, 1810). Gorgone Checkerspot. *E.*

61. *Janatella leucodesma* (C. & R. Felder, 1861). *E.*
 =*Eresia cincta* W. H. Edwards, 1864.
 TL: "Texas, Florida".

62. *Hypolimnas bolina* (Drury, 1770). Common Eggfly. *E.*

63. *Anartia jatrophae saturata* (Staudinger, 1884). *E.*

64. *Anartia jatrophae jamaicensis* Möschler, 1886. *E.*

65. *Anartia lytrea* (Godart, 1819). Godart's Anartia. *E.*

66. *Anartia fatima* (Fabricius, 1793). Banded Peacock. *D.*
 Single specimen; probably intentionally mislabeled.

67. *Basilarchia archippus watsoni* dos Passos, 1938. *D.*
 Florida specimens resembling this ssp. likely represent intermediates between *B. a. archippus* and *B. a. floridensis*.

68. *Myscelia* sp. *E.*

69. *Mestra amymone* (Ménétrier, 1857). Common Mestra. *D.*
 Two specimens; undoubtedly mislabeled, possibly lost.

70. *Mestra cana floridana* (Strecker, 1900). *D.*
 TL: "Everglades of Florida".
 The status of this taxon remains confusing and unresolved.

71. *Hamadryas fornax* (Hübner, [1823]). *E.*

72. *Hamadryas februa* (Hübner, [1823]). Gray Cracker. *E.*

73. *Hamadryas glauconome* (Bates, 1864). Glaucous Cracker. *E.*

74. *Historis acheronta* (Fabricius, 1775). Cadmus. *D.*
 At least one specimen may be valid.

75. *Marpesia zerynthia* (Hübner, [1823]). Waiter Daggerwing. *D.*
 =*coresia* (Godart, [1824])
 Specimens probably mislabeled.

76. *Anaea portia* (Fabricius, 1798). Jamaican Leafwing. *E.*

77. *Anaea aidea* (Guérin-Méneville, [1844]). Tropical Leafwing. *E.*

78. *Enodia creola* (Skinner, 1897). Creole Pearly-Eye. *E.*
 Probably occurs in Florida, but all known records are misidentified *E. portlandia*.

79. *Satyrodes eurydice* (Linnaeus in Johannson, 1763). Eyed Brown. *E.*

80. *Satyrodes eurydice fumosa* Leussler, 1916. Smoky Eyed Brown. *E.*

81. *Hermeuptychia hermes* (Fabricius, 1775). Southern Satyr. *E.*

82. *Neonympha areolata septentrionalis* Davis, 1924. *E.*

83. *Danaus plexippus megalippe* (Hübner, [1819]). *E/D.*
 Florida specimens likely represent variants of *D. p. plexippus*.

84. *Danaus gilippus gilippus* (Cramer, 1775). *E.*

85. *Danaus gilippus jamaicensis* (Bates, 1864). *D.*
 Single specimen; undoubtedly mislabeled.

86. *Danaus gilippus thersippus* (Bates, 1864). *E.*
 =*strigosus* Bates, 1864

87. *Lycorea cleobaea atergatis* Doubleday & Hewitson, [1847]. *E.*

88. *Greta diaphana* (Drury, 1773). Jamaican Clearwing. *E.*

89. *Greta polissena* (Hewitson, 1863). *E.*

90. *Ithomia* sp. *E.*

91. *Thyridia confusa* (Butler, 1873). *E.*